RCRA INSPECTION REPORT:
Liberty HealthCare System, Inc., a.k.a. Jersey City Medical Center
50 Baldwin Avenue
Jersey City, NJ07304

Inspector: Abdool Jabar, Environmental Engineer
Marianna Dominguez, Environmental Engineer
Date of Inspection: April 16, April 17, & April 23, 2003
EPA Handler ID #: NJR000008995
Reason for Inspection: Compliance Evaluation Inspection
Attendees: Abdool Jabar, Inspector, USEPA ,(212) 637-4131
Marianna Dominguez, Inspector, USEPA, (212) 637-4154
Karen O'Keef, Liberty HealthCare System (LHCS) Inc, Chief Operating Officer
James B. Hogle, III, LHCS, VP Facilities & Construction
Timothy Woodward, LHCS Corporate Director of Safety
George J Doumar, LHCS Engineering Director
Elaine J Zweifler, LHCS Laboratory Director
Michael Curci, R.Ph., Pharmacy Director
Rita Smith, VP Patient Care Services

Background:

Jersey City Medical Center operates in four 100 year old buildings owned by the city of Jersey City. It is a regional referral teaching hospital in Hudson County, and it is affiliated to Mount Sinai School of Medicine. The city of Jersey City used to be the owner and operator of the hospital until it became privatized in the 80's. Liberty HealthCare System, Inc., took over and leases the building from the city of Jersey City.

The Medical Center maintains in-patient services and is one of the largest providers of ambulatory care in the region, serving the Hudson County as the Children's Hospital, Teaching Cancer Hospital, Regional Perinatal Center, Level II Trauma Center, Advanced Life Support Provider for the county and Basic Life Support provider for the cities of Jersey City and Secaucus. It employs about 2000 people. It occupies four main buildings: one for surgical, one for medical, one for in patient care and one for clinic, or out patient. The hospital will be relocating to a brand new building in Jersey City, by the end of the year, and full service at the new building is expected to be provided by April, 2004.

From a review of the manifests, site tour and interview with facility representatives, Jersey City Medical Center has been determined to be a Small Quantity Generator (SQG) at the time of the inspection. An opening conference was held with the inspectors, and the attendees listed above to outline the scope of the inspection and to get familiar with the hospital's operation.

SUMMARY OF INSPECTION.
Tour of the facility
Histology Laboratory : It was the first area toured during the inspection. A clearing solvent, with a flash point of 112°F, is used here as a substitute for Xylene. Spent clearing solvent is dumped in the sink. The laboratory supervisor was instructed by the inspector that because of the low flash point of this solvent (< 140°F), the spent solvent is a hazardous waste and it should be handled in compliance with RCRA. An estimated volume of 4000 ml are dumped in the sink, per week. This estimate was based on the counting of the volume of solvent that was being used in the analytical unit at the time of the inspection. In another section of the laboratory, alcohol is used in the analytical test of the tissue samples and information obtained indicated that spent alcohol is poured in the laboratory sink. The spent alcohols poured down the sink are solutions of various concentrations of ethyl alcohol and isopropyl alcohol.

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In the cytology section of the laboratory, there was an automatic stainer surgical slide in use to analyze specimens. It is a Tissue-Tek VIP (Sakura) unit which uses laser technology. Two types of solvents are used in the process and approximately:
10% of bleach goes to drain and 10% Formaldehyde is used for fixing tissues.

2 liters of spent alcohol from the automatic stainer are disposed in the sink on a weekly basis.
4 liters / week of spent solvent are drained in the laboratory sink, that is 2liters/week of each spent solvent called Histology Americlear Cleaning Solvent.
12 liters/week of ethanol at least 70% are dumped in the sink.

No hazardous waste containers were found in the laboratory. It was left to determine whether the Jersey City Medical Center's NJPDES Permit provides for the discharge of spent solvents in the sewer.

The next area inspected was the laboratory store room located across the hall. There was a storage cabinet holding the following chemicals:
400 ml of chromic acid in its original glass container,
50 ml. of Hydrochloric acid,
400 ml of nitric acid in different compartment than that of the chromic acid.
400 ml of Dichromate solution.

Silver Nitrate solution is also poured down in the sink after using it to clean the slides.

A metal cabinet labeled as "Flammable" was holding:
Hematology Reagents AG, BG and CG
Methyl alcohol
Cytology Stains
Potassium Permanganate.

what do you mean?

It was observed that the inventory of chemicals is not adequate.

In the Grossing Room:
A Bayer Tissue processor is used.
10% Formaldehyde is used for fixing tissues. The Formaldehyde is neutralized with VYTAC and poured down the drain. Alcohol is also used in the process.
12 liters/week of alcohol go down the drain.

Pathology /Autopsy Room: No concerns.

There is a storage room down the hall, where medical waste is stored in containers and in an open dumpster. The sharps containers were stacking up on a wheeled rack placed in the hall at the time of the inspection. The dumpster containing other medical waste in red bags was inside a room. The dumpster was open, the room ceiling was in disrepair and it was leaking on top of the open dumpster and the water from the leak was accumulating all over the floor inside the room.

Pharmacy:
Two types of Chemo-waste are generated here, the unused chemotherapy drug and the chemo that is for patient's use. The pharmacist identifies the unused Chemo-waste by labeling it with its technical name and then placing it at an assigned location for the transporter to collect it and dispose of it as hazardous waste. The other type of chemo waste is accumulated as medical waste. The transporter does the lab packing of the chemicals and put the chemo waste together with the medical waste.

Chemo waste generated here is identified as U050 and U010. 2 vials/month approximately, are generated here, and disposed of as medical waste.

Print Shop: No concerns, just a regular copier machine.

At the end of the day a meeting was held, summarizing the day's activities and highlighting the items needed for the record review.

April 17, 2003:

Attendees: Abdool Jabar, Inspector, USEPA ,(212) 637-4131
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A brief meeting was held to give them guidance on the handling of chemo wastes and to review the records that were requested.

The PVSC's NJPDES Permit for the facility, a copy was given to the inspectors and in a telephone conversation with a PVSC's representative, he indicated that they will look in to that matter and re-evaluate the parameters in the permit.

Manifest records from Advanced Recovery for computer monitors,
Invoices and TCLP test results of fluorescent tubes and
A log of inspections were also reviewed.

Microbiology laboratory was the next area toured. It is located in building C. There were no concerns in this area.

Chemistry/Hematology Laboratory was inspected next : wastes are disposed of in the sink, after 10% bleach is poured to kill the bacteria.
Blood Bank was also inspected and there were no concerns.

Nuclear Medicine:
Information on type of radio active materials used at this facility was obtained during the inspection. The facility handles the following radio isotopes with their respective half lives:

Thallium	
Gallium 67	3 days
Technicium 99	6 hours
I_{131}	8 days
I_{123}	13 hours some times
$Indium_{111}$	67 hours

NycoMed manufactures unit doses. Unused dose is returned to pharmacy. After the material is stored for ten half lives, the material is checked for radioactivity, if the material does not exhibit any

radioactivity, it goes out as medical waste. They are checked once a week to determine whether they are hot (exhibit a high radioactivity level). Radioactive waste is all contained and appears to be handled appropriately.

X Rays Room: Silver waste is generated in the X Rays room:
There are two dark rooms for X Rays and they have two silver processors. Mr. Weston Payton, stated that there are two units to collect spent silver. Each unit is 90% efficient.
The facility does not use hazardous waste manifest for shipping of silver waste.
Waste films are collected by Greymart/every eight months. There was one container of spent films which was labeled, to be picked up. Spent fixing developer is drained in the sewer, it is included in the NJPDES Permit. Spent cartridges are also collected by Greymart for silver recovery every six months.

Sterilization Room: Janice Griffin is the person in charge of this section. She accompanied us during the tour of this section. There is a central sterilization unit, one Sterrad 100 S unit that uses H_2O_2 self contained in a cassette. The spent cassette is disposed of in the garbage. OrthoPhenolAldehyde (OPA) is used for sterilization of endoscopes. There are two steam sterilization units which are used to sterilize some of the equipment.

At the end of the day the inspectors requested a number of remaining items for the next scheduled date of the inspection.

April 23, 2003:

In this third day of the inspection the following sections of the hospital were inspected:

The power plant
Battery storage
Computer waste
Mercury lamps
The Dental Clinic (located off site)

The Power Plant:
Mr Wayne Griffith, Environmental Services Supervisor and Mr. Jim Brambilia, Chief Engineering, assisted us in the inspection of this section of the hospital, Mr. Jim Hogle and Mr. Tim Woodward were also present.

Diesel fuel is used to power the emergency generators. It used to be coal in the old days.

The generators are located in a basement 3 level of the boiler house that is about 100 years old.

There are seven boilers in the facility to provide steam for the entire facility
They are:

One 500HP
Two 250 HP/ea,
One 450 HP
Two 510HP/ea Total output 2470 HP

There is also a 1970 boiler with 470 HP, in good condition, however it is not in operation.
The boilers use #6 oil for heating. Each boiler has its own tank to treat the water for the boilers.
Sulfate and an alkaline solution are used for treatment. Boiler blow downs are collected in a pail and

disposed off in the drain.

There are two back up generators, Mr Foley, the operator, stated that one is 700 KW -1000HP and the other is 565 KW-800HP.

These generators are started once/week and work for about an hour on a monthly basis testing the emergency power supply.

There was a stack of brand new fluorescent lamps in a fiber container; each had a label reading "Infinity Lighting Industrial Supply, FO3278/super brite long life 205229. No information as to whether it is a mercury lamp.

Two sets of fluorescent lamps were found in the boiler room, one set was labeled as Sylvania FO32/741 Octron, 4100k 32W, and the other set was labeled as Phillips F40CW/RS/EW2 34W.

Battery storage:
There were 2 large lead acid batteries for the generator which were scheduled to be picked up soon by the manufacturer. They had no labels on them, neither as Universal Waste or Hazardous Waste.
A set of Cd batteries was also observed on the floor by one of the sidewalls in the generator room. They were scheduled be removed soon to be sent back to the manufacturer. This is the first set of Cd batteries that lasted ten years. The facility will switch to lead acid batteries, because they are more efficient.

Dental Clinic:
From the boiler house we went to the dental clinic located at 115 Christopher Columbus Dr, Suite 101, Jersey City. The dental clinic moved to this site in the past two weeks.

Ms. Jeri Flemming accompanied us in the tour of the facility. This is a two story building and the clinic occupies the second floor. There are 4 patient rooms with a dental unit/each. Each machine has a trap at the bottom to collect residuals from the traps. Lead aprons are used by the patients when performing X-Rays on them. Mercury/silver amalgam waste is collected by Greymart without a manifest. X-Rays films go back to recycling.
Once the inspection of the dental clinic was completed we went back to Jersey City Medical Center to do the Record review, fill out the multi-media check list and close the inspection.

Record Review:

There were no hazardous waste manifest records since hazardous wastes were shipped off as medical waste and spent solvents were poured down the drain. So the only records available were the medical waste manifests.
Training records: facility personnel is trained once/year on a Chemical Hygiene Plan prepared by the Laboratory Director.
Emergency Procedures: the list of emergency teams and telephone numbers, as well as evacuation routes are placed throughout the facility's bulletin boards.
Material safety data sheets are available in each laboratory.

At this point the multi-media check list was filled out and EPA publications were hand delivered to the facility representatives. These were: the EPA Checklist of General Security Practices and an EPA publication on How to Manage Hazardous Waste and information on how to handle chemo waste.

Closing Interview:

Once the record review was completed the inspectors held the closing interview with facility's representatives and the following concerns were addressed:

1. The chemo waste is separated by the pharmacist and identified as U050 or U010, however the waste is finally disposed as medical waste, this is a failure to dispose of chemo waste as hazardous waste, without a manifest.

The silver waste generated in the X-Ray room is shipped off site without a uniform hazardous waste manifest.

2. Approximately 9 gallons/week of flammable waste (spent solvents with a flash point of 112°F and spent alcohols at least 70%) are poured into the sink drain. Facility failed to make a hazardous waste determination.

3. Handling of lead acid batteries as universal waste must meet the requirements for Universal Waste in 40 CFR §§ 273.14 (a) and 273.15(c)(2) failure to label the batteries as "Universal Waste" and date them.

4. Disposal of mercury/silver amalgam must be in compliance with the manifest requirements for hazardous waste.

Recommendations:

A combo NOV/3007 Letter should be sent to the facility.
The NOV outlining the following violations:

1. 40 CFR § 262.20(a) requires that a generator who offers for transportation hazardous waste for offsite treatment, storage or disposal must prepare a Manifest OMB control number 2050-0039 on EPA form 8700-22, and, if necessary, EPA form 8700-22A.

Jersey City Medical Center sends for offsite disposal without a Manifest the following hazardous wastes:
chemo waste,
silver waste from the X-Rays room, and
residuals of mercury/silver amalgam generated at the dental clinic

2. 40 CFR§262.11 requires that a person who generates a solid waste as defined in 40CFR 261.2, must determine if that waste is a hazardous waste using the following method:

(a) He should first determine if the waste is excluded from regulation under 40CFR§261.4
(b) then determine if the waste is listed as a hazardous waste in subpart D of 40 CFR§261.
(c) for purposes of compliance with 40 CFR Part 268, or if the waste is not listed as a hazardous waste in subpart D of 40CFR part 261, the generator must then determine whether the waste is identified in subpart C of 40 CFR part 261 by either:

(1) Testing the waste according to the methods set forth in subpart C of 40 CFR part 261, or according to an equivalent method approved by the Administrator under 40 CFR 260.21; or
(2) Applying knowledge of the hazard characteristic of the waste in light of the

materials or the processes used.

Jersey City Medical Center has poured into the laboratory sink drain about 170 Kg/month of flammable (flash point 112ºF) and spent solvents without making a hazardous waste determination.

3. 40 CFR§ 273.14(a) requires that a small quantity handler of universal waste must label or mark the universal waste batteries (i.e. each battery) or a container in which the batteries are contained, must be labeled or marked clearly with anyone of the following phrases: "Universal Waste-Battery(ies)", or "Waste Battery(ies)", or "Used Battery(ies)".

Jersey City Medical Center had a pile of spent batteries to be returned to the manufacturer with no labels on them.

4. 40 CFR§273.15(c)(2) requires that a small quantity handler of universal waste who accumulate universal waste must be able to demonstrate the length of time that the universal waste has been accumulated from the date it becomes a waste. The handler may make this demonstration by marking or labeling each individual item of universal waste (e.g., each battery or thermostat) with the date it became a waste.

Jersey City Medical Center had a pile of spent batteries to be returned to the manufacturer with no dates on them.

The 3007 Section should request the following information:

1. At the time of the inspection, the NJPDES Permit issued by the Passaic Valley Sewerage Commissioners (PVSC) did not allow waste that had a flash point of <140°F to be disposed off in the sewer, did the PVSC modified the NJPDES Permit for Jersey City Medical Center to permit the discharge of flammable spent solvents with flash point of 112°F, and of spent alcohols drained in the sink? If so, please send a copy of the modification.

2. a) Is the silver photo processing waste from the X-Ray room recovered in house?
   b) how much silver waste is generated at the facility ?
   c) how are the spent cartridges from silver recovery unit handled?
   d) if the silver waste is shipped off site, where is it shipped to?
   e) who does the transportation
   Please submit manifest records for the shipping of silver waste.

3. a) describe how mercury waste generated from equipment breaks, i.e., broken thermometers or manometers, or other pressure gages or equipment with mercury swithches, is handled, stored and disposed off.
   b) describe how mercury lamps, that are taken out of service, are handled, stored and disposed off.
   c) for how long is the mercury waste stored on site?

4. a) how is the lead waste generated at the dental clinic handled, stored, and disposed off.
   b) describe how the dental traps at the dental units are cleaned and how the waste is handled.
   c) how the mercury/silver amalgam waste generated at the dental clinic is handled.

5. Describe how the hazardous waste to be generated at closure of Jersey City Medical Center will be handled.

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